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SOURCE Nauka i Zhizn', No 5, 1951, p 16.

SOVIETS DESIGN OXYHEMOMETER

I. Nadezhdin

[The device described below is probably well suited for the detection of
carbon-monoxide poisoning and changes in the blood produced by poisons in gen-
eral.]

At the Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR,
and the Leningrad experimental workshops of the Academy of Medical Sciences USSR,
Prof E. M. Kreps [Krebs?], Corresponding Member of the Academy of Sciences USSR;
M. S. Shipalov, Candidate of Technical Sciences; and engineers E. A. Bolotinskiy
and A. G. Kreitzer designed a cathodic oxyhemometer which makes it possible to
carry out continuous measurements of variations in the oxygen content of the cir-
culating human blood.

The instrument is a simplified electrophotometer, consisting of a light
source, a photocell, special light filter, and a control panel with indicator
dial. It used 80-240 v ac. It is compact and fits into a small carrying case.

In use, the device is generally attached to the outer ear. The light rays
which pass through the tissues and blood vessels strike the photoelement. Ab-
sorption of the light rays varies with the oxygen content of the blood. The
change in the amount of light striking the photoelement measures the percentage
of oxygen in the circulating blood. This percentage is recorded on the dial.

The device is especially useful for early discovery of threatening patholog-
ical conditions; it makes possible more careful control after surgical operations
involving the lungs; it assists the physician in the diagnosis of diseases of the
heart and the respiratory organs; and it is useful in the study of changes pro-
duced by variations of atmospheric pressure. It is also intended for the study
of the degree of saturation of the blood with oxygen during rest as well as
under working conditions.

The new USSR oxyhemometer is superior to similar devices designed and pro-
duced abroad.

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